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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/521,164

01/19/2006

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LOM-0044

9042

23599 7590 10/09/2007  
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EXAMINER

PAPAPIETRO, JACQUELINE M

ART UNIT

PAPER NUMBER

3739

MAIL DATE

DELIVERY MODE

10/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |  |  |  |
|------------------------------|--|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/521,164     | <b>Applicant(s)</b><br>ZEMMOURI ET AL. |  |
|                              | <b>Examiner</b><br>Jacqueline Papapietro | <b>Art Unit</b><br>3739                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin (US 6258082 B1).

Regarding claim 1, Lin discloses an apparatus consisting essentially of a therapeutic light source (1) which enables a non-thermal therapeutic light beam (2) to be emitted in a manner similar to light sources used in the context of dynamic phototherapy, wherein said light source is designed to emit a therapeutic light beam presenting an emission wavelength lying in the range 0.5 microns to 3.2 microns (abstract, line 5), which includes the claimed range. Lin discloses that the beam causes "minimum thermal effects" (column 4 lines 40-49), i.e. a non-thermal beam. A recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus.

Regarding claim 2, Lin discloses the apparatus according to claim 1 wherein the power of the therapeutic light beam lies in the range of about 0.1 W to 5.0 W (column 9 line 21), which overlaps the claimed range.

Regarding claim 3, Lin discloses the apparatus according to claim 1 wherein the light source is a laser source (1).

Regarding claim 6, Lin discloses a method consisting essentially of using a therapeutic light source (1) that enables a therapeutic light beam (2) to be emitted in a

manner similar to light sources used in the context of dynamic phototherapy, wherein said light source is designed to emit a therapeutic light beam presenting an emission wavelength in the range 0.5 microns to 3.2 microns (abstract, line 5), which would inherently generate intracellular singlet oxygen directly and in sufficient quantity. The range 1.26 microns to 1.27 microns is within the range of wavelengths disclosed by Lin. Applicant has claimed the method in very broad terms with only a single step of using a light source. There is no limitation claimed regarding the direction of the light source or the target of the therapy. Where a reference discloses the terms of the recited method steps, and such steps necessarily result in the desired and recited effect, that the reference does not describe the recited effect *in haec verba* is of no significance as the reference meets the claim under the doctrine of inherency.

Regarding claim 7, Lin discloses the method according to claim 6, wherein the power of the therapeutic light beam lies within the range of about 0.1 W to 5.0 W (column 9 line 21), which overlaps the claimed range.

Regarding claim 8, Lin discloses the method according to claim 6 wherein the therapeutic light source is a laser source (1).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 4-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Rice at al (US 6200309 B1).

Regarding claims 4 and 9, Lin discloses the apparatus according to claim 3 and the method according to claim 8, but does not specify an optical fiber Raman laser. Rice teaches the use of an optical fiber Raman laser (310, Fig 9) for photodynamic therapy with lasers in a variety of emission wavelengths, including the min-infrared region (column 12 lines 15-18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Lin by including the optical fiber Raman laser of Rice in order to achieve the emission wavelength specified by Lin.

Regarding claims 5 and 10, Lin in view of Rice discloses the apparatus according to claim 4 and the method according to claim 9. Lin doesn't disclose an ytterbium-doped optical fiber laser. Rice teaches the optical fiber Raman laser comprising a pump laser diode (320), an ytterbium-doped optical fiber laser (column 12 lines 16-19), and a Raman converter (400) serving to transpose the wavelength of the beam coming from the ytterbium-doped optical fiber laser. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified Lin in view of Rice in order to efficiently output the desired laser beam in the given wavelength range.

### ***Response to Arguments***

Applicant's arguments filed July 19, 2007 have been fully considered but they are not persuasive.

Applicant argues that the wavelength must remain in the interval of 1.26 to 1.27 microns in order for absorption in the resonant transition to occur, and thereby create

singlet oxygen. However, Applicant has disclosed in the Specification that the emission wavelength of the invention can be in the range of 1.2 to 1.3 microns.

As pointed out in the rejection of claim 1 above, there is no structural difference between the claimed invention and the invention of Lin.

In response to applicant's argument that the Lin invention is used to treat the cornea, not the retina; a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding the method claims, specifically claim 6, Applicant has claimed the method in very broad terms with only a single step of using a light source. The method must be positively claimed with active steps. There is no limitation claimed regarding the direction of the light source or the target of the therapy.

In response to Applicant's argument that Lin does not include certain features of Applicant's invention, the limitations on which the Applicant relies (i.e., treating the macula behind the cornea and crystalline lens) are not stated in the claims. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064.

Regarding Applicant's argument that Rice is evidence of patentability rather than *prima facie* obviousness because Rice is directed at treating tumors using photosensitive drugs, Applicant has not claimed that the instant invention is different

than dynamic phototherapy. Applicant has not claimed that no photosensitive drugs are to be used in the instant invention. Although Rice is directed at treating tumors, one of ordinary skill in the art of dynamic phototherapy would have recognized that the laser disclosed by Rice could be used in the device and method disclosed by Lin.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacqueline Papapietro whose telephone number is (571) 272-1546. The examiner can normally be reached on M-F 8am-4:30pm.

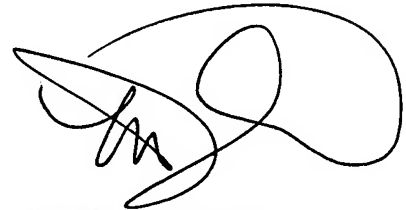
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3739

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jmp

Jacqueline Papapietro  
Art Unit 3739



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